

Communicate to learn, learn to communicate: a study of engineering students' communication strategies in a mobile-assisted learning environment

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Abstract. This paper reports a 3-month study investigating engineering students' Communication Strategies (CSs) in a mobile-assisted course. 67 Chinese learners of English in this course volunteered to participate in the study. The instruments included oral communication sessions, stimulated recall interviews, WeChat exchanges, etc. Results showed that the participants used a variety of CSs when completing the academic tasks. Moreover, these CSs were closely related to the students' involvement in meaning negotiation while they were interacting to complete learning tasks. It is suggested that instructors have CS training tailored to their students' learning tasks. Future research should focus on a longitudinal investigation of the transfer of CSs across tasks.

Keywords: English education, communication strategies, mobile-assisted language learning, academic performance.

1. Introduction

The effects of technology in English education have been investigated extensively in the past three decades. Researchers have claimed that learners in a class with Computer-Assisted Language Learning (CALL) have better opportunities for learning than those in the traditional approach of face-to-face instruction (e.g. Beatty, 2003). Mobile-learning, for example, has been found effective for second language (L2) learning because of the flexibility offered to L2 learners in and outside of the classroom (Godwin-Jones, 2011). Drawing on the recent researches in mobile-learning (e.g. Huang, 2014; Jamshidnejad, 2011; Jantjies & Joy, 2015),

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the present study aimed at examining the CS used by Chinese engineering students learning English in Mobile-Assisted Language Learning (MALL) settings.

The notion of CS in L2 education was first raised by Selinker (1972), followed by a series of systematic analysis of the definitions and taxonomies of CSs (e.g. Dörnyei & Scott, 1997; Færch & Kasper, 1983; Tarone, 1977). For the purpose of the study, Dörnyei and Scott's (1997) definition of CSs was used. According to Dörnyei and Scott (1997), CSs are problem solving devices used to handle three types of communication problems: (1) Own-performance problems (e.g. the strategy of 'self-repair'), (2) other-performance problems (e.g. the strategy of 'meaning negotiation'), and (3) processing-time pressure (e.g. the use of fillers, hesitation devices, etc).

Previous researches of CSs have mainly focused on the identification of learners' CSs. Few have been found investigating how Chinese learners use CSs in MALL contexts. The following were the research questions in the present study:

- What CSs do Chinese learners of English use when they are interacting to complete academic tasks?
- To what extent are the CSs used in-class communication sessions similar to or different from those used in WeChat interactions?

2. Method

2.1. Site and participants

This study was conducted in a joint program between a Chinese university and a university in the UK. The course of Professional Applications (PA) was offered to all the Year 2 Chinese students in this program in Beijing. In PA, students were expected to do various kinds of the tasks/projects including a 12-week project of organizing a Modal International Conference (MIC). The teaching contents were arranged with two hours' face-to face instruction every week supplemented by group discussions using WeChat on mobiles, one of the most popular social networking tools in China.

The study covered three months, from March to May of 2016. 'Organizing a Conference' was the focus of the study. The PA course was taught in English in China. 67 students volunteered to participate in this study. Among them, 35 were majoring in Telecommunications Engineering with Management and 32 in Internet

of Things Engineering. These participants were divided into ten groups of six/seven. They made their own decisions as to which group to join in.

2.2. Procedures

Two types of data served as the major sources for analysis of this study: (1) eight in-class communication sessions and 10 stimulated recall group interviews, and (2) the participants' WeChat exchanges with their group members while they were discussing their coursework. All the data were transcribed and coded by the researchers.

3. Results and discussion

A total of eight hour communication sessions and five hour interviews were analyzed. The WeChat messages consisted of 18,241 words, 192 voice messages and 597 emoticons/pictures/videos. Based on [Dörnyei and Scott's \(1997\)](#) Inventory of Strategic Language Devices, the researchers analyzed the transcripts in in-class communication and identified 16 CSs over 33 CSs (See [Table 1](#)).

Table 1. Description of CS use in the in-class communication sessions

	Category of CS	Examples of Discourse Markers	Frequency
1	Message abandonment	"MIC? Ur...It's a meeting?... Okay." ((With a puzzled facial expressions and frowns))	336
2	Message replacement	((Retrospective comments)) "I'm the char. I forgot how to say chengxuce ((conference program)). So I had to say something else".	245
3	Circumlocution	"Dress code means wearing shirts and suits...like this." ((Shows a picture of two students volunteers at Global Mobile Internet Conference 2015))	424
4	Approximation	Use of "composition" or "essay" instead of "conference paper"	245
5	Use of all-purpose words	"the thing", "something like that"	198
6	Word coinage	"unsatisfied", "illegal"	88
7	Literal translation	"After I entered into this university..."	398
8	Foreignizing	"That's all simida" ((Use of the Korean word simida for stress))	88
9	Code-switching	"G si" and "G wu" ((Chinese equivalent for G4 and G5))	436
10	Repair	"Ladies and gentlemen. You're warmly welcomed...welcome."	195

11	Mime	“Nonverbal communication means... ((Demonstrates using hand gestures))...Is it clear?”	289
12	Use of fillers	“Well...”	165
13	Repetition	Speaker 1: “One writing mistake is redundancy.” Speaker 2: “Redundancy?” Speaker 1: “Yes, redundancy.”	210
14	Appeal for help	“Can you email me the IEEE paper template?”	321
15	Asking for clarification	“What do you mean?”	254
16	Expressing non-understanding	“I’m sorry. I don’t understand.”	132

Results of the CS use in the in-class communication sessions show high occurrences of ‘Code-switching’ ($F=436$), ‘Circumlocution’ ($F=424$) and ‘Literal Translation’ ($F=398$).

The WeChat data showed similar types of CSs used by the participants, except for Strategy 11 of ‘Miming/Paralinguistic features’. Because of the absence of face-to-face communication in WeChat interactions, the participants tended to use more frequently the compensatory strategy of mobile-supported emoticons, voice messages, etc. Table 2 shows the frequency of the use of emoticons in WeChat messages. Emotions, in this study, refer to graphic representations in instant messaging sessions. They may be punctuations, facial expressions, numbers, letters, etc.

Table 2. Frequency of the use of emoticons in WeChat interactions

	Category of CS	Explanation and/or Examples from the Data	Frequency
8	Foreignizing	Use of emoticons for stress/humor. Examples:  , 纳尼?! (Japanese word ‘nani’ meaning ‘what’), 欧巴思密达 (Korean words: ‘Ouba’ means ‘brother’, and ‘simida’ indicates stress.)	168
9	Code-switching	Use of emoticons which have both Chinese and English words. Examples: 	146
14	Appeal for help	刚刚发生了什么事 Examples:  (‘What was happening just now?’),  , 	154

15	Asking for clarification	Examples:  我有点方 	149
16	Expressing non-understanding	Examples:  ,  , 	138

A closer look at the further contexts of the CSs in the participants' WeChat messages when they communicated to perform learning tasks revealed that they used those CSs not only for comprehension purposes but also for interpersonal communication purposes. The following extract is a WeChat example:

1. Jigang: Hi, everyone! We have reviewed all the papers. We'll soon announce the names of the students who will present at MIC.
2. Lily: Present at MIC?
3. Jigang: Yes, present at moni guiji huiyi (*Model International Conference*) simida.
4. Lily: Haosailei! ((The word haosailei means 'great' and has the pronunciation in Cantonese dialect. It is a popular Internet buzzword in China.))
5. Jigang: ((follows Lily's message and posts a smiley)) (# 176; 2016-04-27)

In the above situation, the first communicator makes an announcement. The phrase of 'Present at MIC' is repeated in the second turn, which is a signal for a problem in understanding. Jigang interprets this as a request asking for clarification. So in the third turn, he rephrases the term using the Chinese equivalent 'moni guoji huiyi'. In the fourth turn, Lily shows understanding and appreciation by using 'haosailei'. In recent years, many foreign cultures and languages have been introduced into China. That might explain why some foreign words such as the Korean word 'simida' (expressing stress) and the Japanese word of 'nani' (expressing anger and curiosity) were frequently used in the participants' oral communication and in their WeChat exchanges.

4. Conclusions and implications

In this paper, the researchers have investigated the CS use in mobile-assisted learning environments. Three conclusions can be drawn from the above

discussion. First, the L2 learners used a variety of CSs in the MALL learning settings. Second, the participants used similar types of CSs in in-class communication sessions and in WeChat interactions, except for the strategy of 'Miming/Paralinguistic features'. Finally, due to the absence of face-to-face communication in WeChat interactions, the participants used emoticons more frequently in their instant message sessions. The pedagogical implication of the study is the reachability of CSs among Chinese learners of English at the tertiary level in China. Future research should focus on a longitudinal investigation of the transfer of CSs across tasks.

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